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DISINFECTION WASHING MACHINE
[Desinfektionswaschmaschine]

Heinz Herbertz

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APPLICANT	(71):	H. Krantz Company
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The invention concerns a disinfection washing machine, which is used, in particular, for the treatment of clothes in hospitals with infection wards, but which can also be used where radioactive clothing articles or the like are to be contaminated. Such washing machines must be designed in such a way that the loading and unloading of the machine space take place strictly separately from one another, so that the clothes disinfected by the treatment are not exposed, once again, with pathogens or radioactive particles when they are being removed from the machine.

The subdivision of the washing space into two spaces, by a separation wall, is known (Poensgen prospectus). The washing machine stands behind the separation wall before one access, which can be closed by a sliding door. When the access is closed, the infected clothes are loaded into the machine. /2* Only after the washing and disinfection processes have ended is the sliding door moved to the side, and the clothes are removed from the second space of the machine. During the emptying process, therefore, the spaces, which are specifically subdivided by a separation wall, are connected with one another, so that the pathogens or radioactive particles can go from the preparation space of the machine into the second space. A ventilator located in this access to reduce this danger, which blows into the preparation space, does not provide any assurance that pathogens or radioactive substances do not go into the second space.

To attain a complete separation between the two spaces, therefore, a washing machine has also already been proposed, which is incorporated, sealed, into the passage of the separation wall (DAS 1,158,215). This rigidly incorporated washing machine has the disadvantage that a door for the loading and unloading processes, each, must be provided in the machine housing and in the washing drum, so that the machine is accessible from both spaces.

* [Numbers in right margin indicate pagination of the original text.]

Aside from the fact that this machine requires four doors that must be opened and, once again, closed successively for each charge, the loading and unloading of a rigidly incorporated machine must be done, to a large extent, by hand.

The goal of the invention is to create a disinfection washing machine, which can be loaded and /3
unloaded, automatically, with a reduced construction expense.

Proceeding from a disinfection washing machine with a separation wall that subdivides the washing space into two spaces and has one access, behind which the washing material to be disinfected is placed in the machine and in which the disinfected and washed material is removed from the machine after the treatment, the task, in accordance with the invention, is carried out in that the machine, provided with only one opening, is placed behind the separation wall, and the cover that closes the opening sits in a framework, which can be detached from the housing of the machine, and an end of a sleeve, whose second end is connected with the border of the access, is flanged on the framework.

The sleeve, connecting the passage of the separation wall with the cover framework, provides for a complete separation of the two spaces and, with a suitable selection of material, absorbs, without damage, the vibrations of the machine, which occur during the washing and spinning processes.

A sufficiently dimensioned sleeve, with a corresponding elasticity, also, for the purposes of loading and unloading, permits the machine to be brought into a position that makes possible an automatic loading and unloading.

For the filling process, in accordance with the invention, the cover and the framework together /4
with the flanged-on sleeve are removed from the housing, so that the interior of the machine behind the separation wall is accessible and, from there, can be loaded with the infected washing material. During the emptying process, the framework remains with the sleeve on the housing, so that, with the opened cover, the interior of the machine is accessible from the front space. The disinfected and washed

material then goes from the drum through the interior of the machine via the access before the separation wall. The spaces subdivided by the separation wall remain, in this way and in spite of the access, completely separate from one another, even during the loading and unloading processes.

To simplify an automatic loading and unloading of the washing machine, the invention proposes that the machine have a drum, to be loaded in front and rotating around a horizontal axis that is swiveled together with the housing for the loading in such a way that the housing and the drum opening are directed upwards and, for the emptying, is swiveled in such a way that the housing and the drum opening is directed downwards.

The machine, brought into the loading position, is loaded, in accordance with the invention, via a funnel that can be displaced horizontally along the separation wall. Therefore, it is no longer required for the operating personnel to come into contact with the contaminated clothing, since, for loading, the machine is brought to a position that makes possible an automatic sliding of the clothes into the machine. In this way, an infection or radiation harm to the personnel during loading is avoided. Likewise, a /5 renewed infection of the clothing is avoided by tilting during the automatic emptying. Also, the further transport of the clothing can take place automatically by conveyance belts or other suitable devices, so that a contact of the clothes and, thus, the possibilities for renewed infection are avoided.

An embodiment example of the disinfection washing machine in accordance with the invention is depicted schematically in the drawing.

Figure 1 shows the machine in the loading position;

Figure 2, in the working position; and

Figure 3, in the unloading position.

A separation wall 1 with one access 2 subdivides a washing space into two spaces 3 and 4. Behind the separation wall 1, there is a combined washing and spinning machine 5 in space 4, before the access

2. The machine essentially consists of a housing 6, in which a washing and spinning drum 7 open in front is supported so that it can rotate. The drive of the drum 7 for the washing and spinning processes takes place by means of a motor 8, supported on the housing 6, whose shaft carries a pulley 9, which, via a belt 10, acts on a pulley 11 of the drive shaft 12.

Carriers 13, on which sliding elements 14 act, in a displaceable manner, are affixed on both sides of the machine housing 6. Piston rods 15 are connected with sliding elements 14 by means of articulations 16.

A cover 18, which closes the drum and housing opening 17, sits in a framework 19, which can be /6
detached from the housing 6. A bolt 20 is designed in such a manner that during the removal of the framework 19, it automatically holds the cover 18 in the closing position, relative to the framework. A sleeve 21 is flanged, with an end, on the framework 19. The other end of the sleeve 21 is connected with the border of the access 2 of the separation wall 1.

Via tracks 22, a funnel 24 can be displaced horizontally, on rollers 23, over the machine, along the separation wall 1.

The operation mode of the machine is as follows:

First, the cover 18 is removed, together with the framework 19, from the housing 6 by means of piston rods 25. Subsequently, the piston rods 15 swivel the housing 6 into the position shown in Figure 1, so that the drum and housing opening 17 is directed upwards. Only then is the funnel 24, filled with infected clothes, moved via the drum 7. With the removal of the funnel closure 26, the clothing falls into the drum 7.

After the funnel 34 is emptied in this manner, it is moved to the side and the drum and housing opening 17 is closed. Afterwards, the piston rods 15 transfer the housing 6 to the horizontal position depicted in Figure 2. Then, the disinfection and washing processes can begin.

After the spinning of the washed material, the lock 20 on the cover 18 is loosened, and the cover 18 is /7

opened by the piston rods 25, wherein the framework 19 and the flanged-on sleeve 21 remain firmly connected with the housing 6.

The piston rods 15 then swivel the housing 6, with the drum 7, into the position shown in Figure 3. The washed and disinfected clothing fall from the drum through the interior of the sleeve, into the space 3. To support the emptying process, the drum can then turn at a low rpm. Nondepicted transporting elements take up the clothing and convey it, for example, to an ironing room.

Claims /8

1. Disinfection washing machine with a separation wall, which subdivides the washing space into two spaces and has one access, behind which the washing material to be disinfected is placed in the machine and before which the disinfected and washed material is removed from the machine after the treatment, characterized in that the machine (5), equipped with only one opening (17), is placed behind the separation wall (1), and the cover (18), which closes the opening (17), sits in a framework (19), which can be detached from the housing (6) of the machine (5), on which an end of a sleeve (21) is flanged, whose second end is connected with the border of the access (2).

2. Washing machine according to Claim 1, characterized in that, for the filling process, the cover (18) and the framework (19), together with the flanged-on sleeve (21), are removed from the housing (6), so that the machine (5) can be charged with washing material behind the separation wall (1), whereas for the emptying process, the framework (19) remains, with the sleeve (21), on the housing (6), and only the cover (18) is opened, so that the disinfected and washed material goes from the drum (7), through the interior of the sleeve (21), via the access (2) before the separation wall (1).

3. Washing machine according to Claims 1 and 2, characterized in that the machine (5) has a drum (7), which is charged in front and rotates around a horizontal axis, which, for the loading, is /9
swiveled, together with the housing (6), so that the drum and housing opening (17) are directed upwards and for the emptying, is swiveled in such a way that the drum and housing opening (17) is directed downwards.

4. Washing machine according to Claims 1-3, characterized in that the machine (5) is loaded via a funnel (24), which can be displaced horizontally along the separation wall (1).

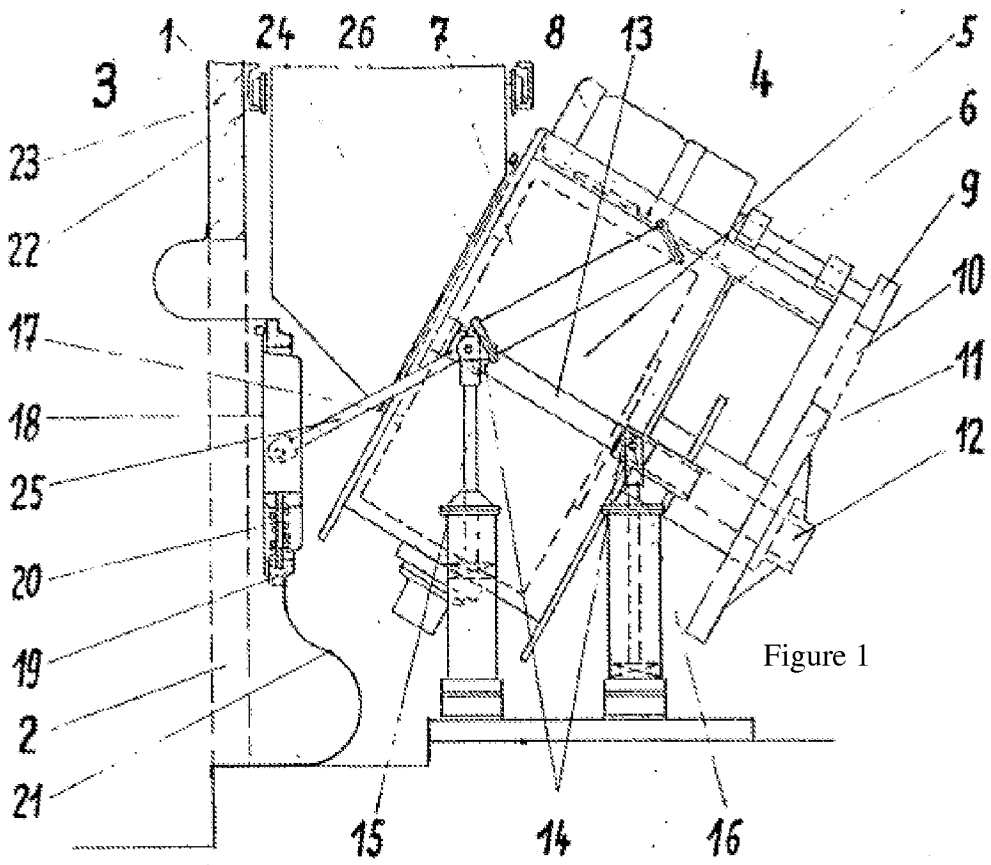
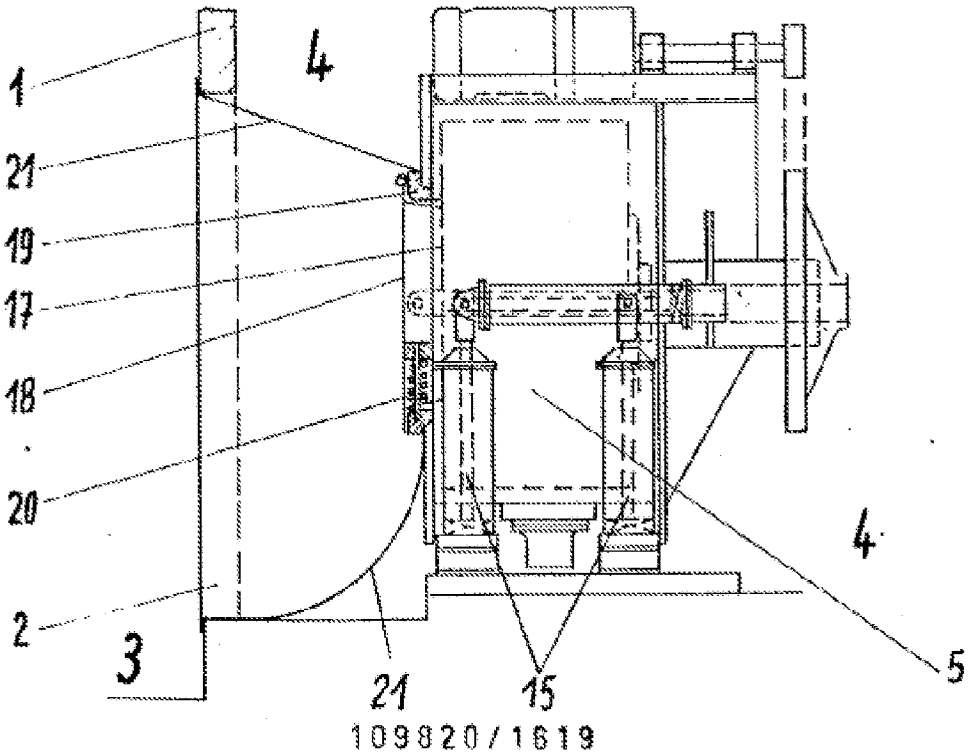


Figure 1

Figure 2



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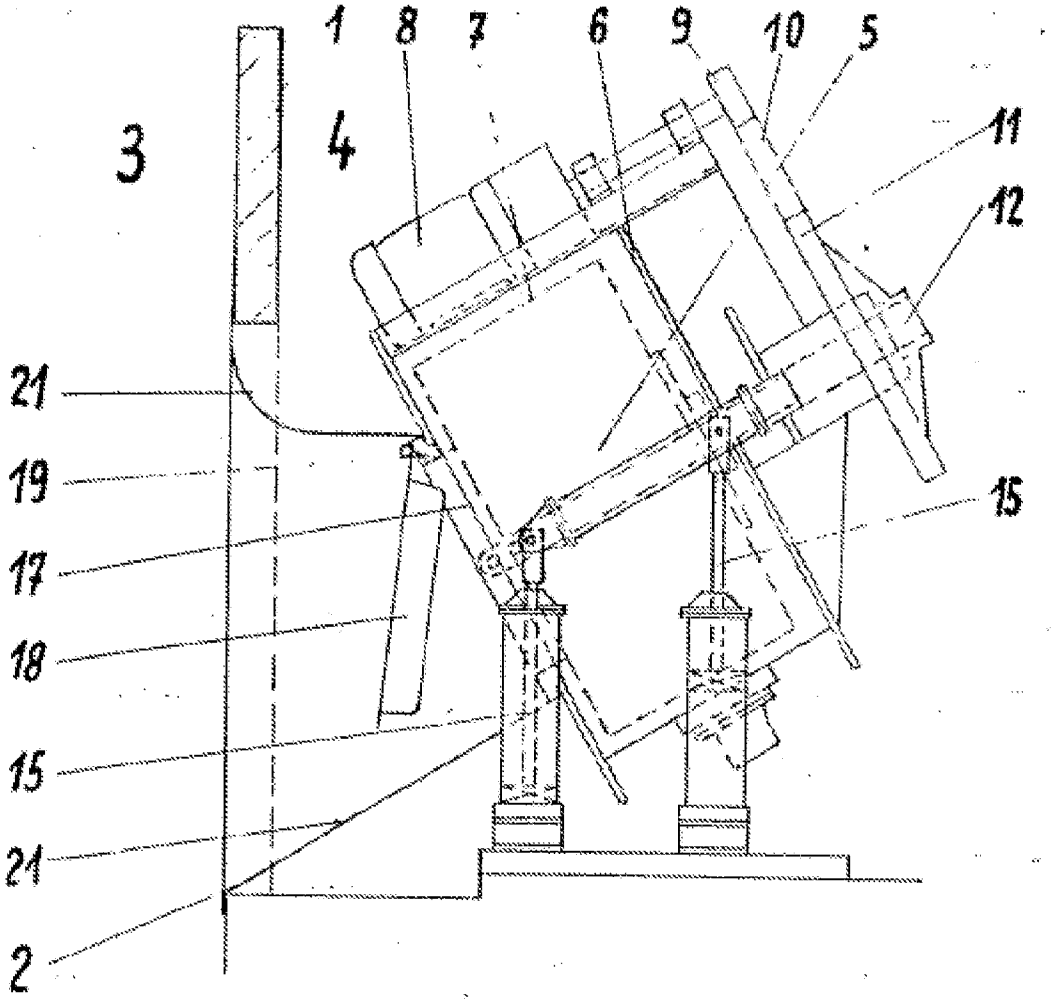

Figure 3